



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of QUARTARARO ET AL

Serial No. 09/297,737

Group Art Unit : 1764

Filed: November 7th, 1997

Examiner: Walter D. Griffin

For : CATALYST HAVING AT LEAST ONE ELEMENT OF GROUP VIIB AND
ITS USE IN HYDRO-TREATING

DECLARATION UNDER 37 C.F.R. § 1.132

**Honorable Commissioner
of Patent and Trademarks
Washington, D.C. 20231**

Sir :

I, Germain Martino, duly warned, declare and say as follows:

THAT, I am a French citizen; that I graduated from "Faculté des Sciences de l'Université de Strasbourg" (France) in 1961; that I obtained an Engineer Diploma from "Ecole Nationale Supérieure de Pétrole et des Moteurs" Rueil-Malmaison (France) in 1963; that I was received as a Doctor by "Université de Louvain" (Belgium) in 1965; and that I now reside in 78300 Poissy (France), 80 avenue Fernand-Lefebvre;

THAT, I was hired by "Institut Français du Pétrole" Rueil-Malmaison (France) in their Research Department to research on catalytic agents and catalytic reactions in May 1967; that, from January 1985 to September 1989, I was Manager of the Kinetics and Catalysis Research Division; that, from September 1989 to December 1997, I was Assistant Manager of the whole Refining and Petrochemical Technology Business Unit; and that since then I have been Manager of said Refining and Petrochemical Technology Business Unit.

THAT, I am familiar with the processes and catalysts.

I declare further:

Comparative example 2:

We have prepared a NiMo type catalyst (named JQ12) prepared with a solution of nickel nitrate and ammonium heptamolybdate, the metal content of the catalyst, calculated as the metal oxide, is respectively NiO 2,7% wt, MoO₃ 15,1% wt.

Hydrodesulfurization relative activity of JQ12 is 0,68.

This example clearly illustrates the unexpected increase of the activity of JQ12 when both P and Re are present in comparison with JQ11. The addition of phosphorus to JQ11 increases the activity from 1,17 to 2,79 (+138%)

However, if we compare the activity of JQ12 (NiMo) 0,68 to the activity of JQ9 (NiMoP) equal to 1, the relative increase due to phosphorus addition is only +47%.

This example shows that the high performances obtained with a NiMoReP catalyst according to the invention are due to a synergic effect between phosphorus and a particular hydro-dehydrogenating phase (rhenium).

The undersigned declares further that all statements are made herein of his own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements are made with the knowledge that willful false statements and the like so made were punishable by fine or imprisonment, or both under Section 1001 Title 18 of United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Rueil, September 18, 2004

Germain MARTINO